DETAILED ACTION

1.   This application is responsive to application number (10539710) filed on January

09, 2006. Claims 1-17 are pending and have been examined.

Information Disclosure Statement

2.   Acknowledgement is made of applicant's information disclosure statement.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1-17 is/are rejected under 35 U.S.C. 101 as not falling within one of the

four statutory categories of invention.   Supreme Court precedent[1] and recent Federal

Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be

tied to another statutory category (such as a particular apparatus), or (2) transform

underlying subject matter (such as an article or material) to a different state or thing.

While the instant claim(s) recite a series of steps or acts to be performed, the claim(s)

neither transform underlying subject matter nor positively tie to another statutory

category that accomplishes the claimed method steps, and therefore do not qualify as a

statutory process.   For example, the method of encoding video pictures comprising the

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

steps of "dividing the picture into regions" and "predicting whether each region requires

processing through further steps, said predicting comprising comparing one or more

statistical measures with one or more threshold value for each value" is off sufficient

breadth that it would reasonably be interpreted as a series of steps completely

performed mentally, verbally, or without a machine.

The Applicant has provided no explicit and deliberate definitions to tie the method

which includes the steps of " dividing the picture into regions " and "predicting whether

each region requires processing through further steps, said predicting comprising

comparing one or more statistical measures with one or more threshold value for each

value " to limit the steps to a particular apparatus or device.

Claim Rejections - 35 USC § 112

4.   Claims 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

5.   Regarding claims 7-10 , the term "estimate of energy" renders the claim

indefinite. It is unclear what is to be considered "estimate of energy". As best

understood by the Examiner, incremental contributions are values such as SAD or

MAD.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1, 3-7, and 16-17 rejected under 35 U.S.C. 102(b) as being anticipated by

Lin (US 6, 192, 148).

As per **claim 1**, Lin discloses a method of encoding video pictures comprising the

steps of:

dividing the picture into regions (Fig 2 step 108; column 4 lines 33 – 34);

predicting whether each region requires processing through further steps, said

predicting step comprising comparing one or more statistical measures with one or

more threshold values for each region (column 4 line 67 – column 5 line 5 and column 5

lines 42 – 48; Lin teaches using a MAD means for the statistical measure and

comparing it with a threshold value to predict a further step).

As per **claim 3**, Lin discloses a method as claimed in claim 1 wherein the further

steps include transform processing (Fig 2 step 124, column 6 lines 52 – 56).

As per **claim 4**, Lin discloses a method as claimed in claim 3, wherein the

transform processing step is a discrete cosine transform processing step (Fig 2 step

124, column 6 lines 52 – 56).

As per **claim 5**, Lin discloses a method as claimed in claim 1, wherein a region is a non-overlapping macroblock (column 4 lines 33 -34).

As per **claim 6**, Lin discloses a method as claimed in claim 5, wherein a macroblock is a sixteen by sixteen matrix of pixels (column 5 lines 13 – 15; Lin discloses that a marcoblock has a luminance of 16 x 16 pixels divided into an array of 2x2 blocks of 8x8 pixels).

As per **claim 7**, Lin discloses a method as claimed in claim 5, wherein one of the statistical measures is whether an estimate of the energy of some or all pixel values of the macroblock is less than a first predetermined threshold value (column 5 lines 42 – 51; the term "estimate of the energy" is unduly broad and therefore a MAD can be considered an "estimation of the energy" which is then compared to a first threshold).

As per **claim 16**, Lin discloses a method of encoding pictures, as claimed in claim 1, performed by a computer program embodied on a computer usable medium (column 6 lines 58 – 59; Lin teaches that a processor implementation can be used).

As per **claim 17**, Lin discloses a method of encoding pictures, as claimed in claim 1, performed by electronic circuitry (column 6 lines 56 – 57; Lin teaches using a discrete hardware system).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

10.   Claims 2, 8-9, and 11-12 rejected under 35 U.S.C. 103 (a) as being unpatentable over Lin (US 6,192,148) in view of Yang e al (US 2002/0106021, hereafter Yang).

         As per **claim 2**, Lin discloses a method as claimed in claim 1.

         However, Lin does not explicitly teach wherein the further steps include motion estimation.

         In the same field of endeavor, Yang teaches wherein the further steps include motion estimation (paragraph [0010]; Yang teaches that a process is implemented to reduce the number of computations needed for motion estimation).

         Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Lin in view of Yang. The advantage is obtaining a good result for low bit rate encoding (paragraph [0013]).

As per **claim 8**, Lin discloses a method as claimed in claim 7.

However, Lin does not teach wherein the estimate of energy is divided by a quantizer step size before being compared to the first threshold value.

In the same field of endeavor, Yang teaches wherein the estimate of energy is divided by a quantizer step size before being compared to the first threshold value (paragraph [0024]; Yang teaches applying quantization parameters to determine whether a reduction in computations of motion estimation is possible).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Lin in view of Yang. The advantage is obtaining a good result for low bit rate encoding (paragraph [0013]).

As per **claim 9**, Lin discloses a method as claimed in claim 7.

However, Lin does not explicitly teach wherein one of the statistical measures is whether an estimate of the values of certain discrete cosine transform coefficients for one or more sub-blocks of the macroblock, is less than a second predetermined threshold value.

In the same field of endeavor, Yang teaches wherein one of the statistical measures is whether an estimate of the values of certain discrete cosine transform coefficients for one or more sub-blocks of the macroblock, is less than a second predetermined threshold value (paragraphs [0024] and [0025]; Yang teaches that

statistical measures can be applied to sub-blocks and in this case SAD is the statistical measure).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Lin in view of Yang. The advantage is obtaining a good result for low bit rate encoding (paragraph [0013]).

As per **claim 11**, Lin discloses a method as claimed in claim 5.

However, Lin does not explicitly teach wherein one of the statistical measures is whether an estimate of distortion due to skipping the macroblock is less than a third predetermined threshold value.

In the same field of endeavor, Yang teaches wherein one of the statistical measures is whether an estimate of distortion due to skipping the macroblock is less than a third predetermined threshold value (paragraphs [0027] and [0028]; Yang teaches reference critical values that serve as thresholds and distortion calculations, SAD, and a comparison between the two values).

As per claim 12, Lin teaches a method as claimed in claim 11.

However, Lin does not explicitly teach wherein the estimate of distortion is calculated by deriving one or more statistical measures from some or all pixel values of one or more previously coded macroblocks with respect to the macroblock.

In the same field of endeavor, Yang teaches wherein the estimate of distortion is calculated by deriving one or more statistical measures from some or all pixel values of one or more previously coded macroblocks with respect to the macroblock (paragraphs

[0027] and [0028]; Yang teaches reference critical values that serve as thresholds and distortion calculations, SAD, and a comparison between the two values).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Lin in view of Yang. The advantage is obtaining a good result for low bit rate encoding (paragraph [0013]).

Allowable Subject Matter

11.   Claims 10 and 13 - 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIKAODILI E. ANYIKIRE whose telephone number is (571)270-1445. The examiner can normally be reached on Monday to Friday, 7:30 am to 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272 - 7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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